IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

ERIC W. LIIMATTA	)
	) **ART UNIT: 1761**
APPLN. NO.: 10/603,130	)
	)
CONFIRMATION NO.: 9877	)
	)
FILED: JUNE 24, 2003	) **EXAMINER: ARTHUR L. CORBIN**
	)
MICROBIOCIDAL CONTROL IN THE PROCESSING OF POULTRY	)

Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

Sir:

APPEAL BRIEF

CERTIFICATE OF SUBMISSION

I hereby certify that, in the course of ordinary business, this paper (along with any referred to as being attached or enclosed) is being submitted on the date indicated below to the United States Patent and Trademark Office via EFS-Web.

September 11, 2007
Date

/Gina R. Merritt/
Gina R. Merritt

Real Party in Interest

The real party in interest for this appeal is Albemarle Corporation, a Virginia corporation having a place of business at 451 Florida Street, Baton Rouge, Louisiana 70801.

Related Appeals and Interferences

At present there is no pending appeal, interference, or judicial proceedings known to Appellant, the Appellant's legal representative, or Assignee which may be related to, directly affect or be directly affected by or have a bearing on the Board's decision in this Appeal.

Status of Claims

The claims in this proceeding are Claims 1, 3, 4, 8, 10, 14-19, 23-31, 33, 34, and 38-44. Each of these claims has been finally rejected and each is being appealed. Claims 2, 5-7, 9, 11-13, 20-22, 32, 35-37, and 45 have been cancelled previously without prejudice or disclaimer.

Status of Amendments

Subsequent to the Final Rejection of March 28, 2007, an amendment and response to the Final Office Action was submitted on July 5, 2007. In an Office communication dated July 19, 2007, an Advisory Action Before the Filing of an Appeal Brief was mailed to Appellant's representative. Although indicating that the reply filed July 5, 2007 fails to place the Application in condition for Allowance, the Advisory Action states that, for purposes of Appeal, the proposed amendment would be entered.

Summary of Claimed Subject Matter

The claims on appeal relate to improvements in the processing of poultry for consumption as a meat product [Original Independent Claims 1, 8, 14, and 31], or the slaughter and processing of poultry as a meat product [Original Independent Claim 23]. The claims are all in Jepson format. An end result achievable by the claimed improvements is effective reduction or minimization of microbiological contamination of the meat product at

all stages of the specified operations, and the provision of a meat product in which the taste, sensory quality, appearance, and wholesomeness of the product should not be adversely affected in any material manner by the microbiocidal operations conducted pursuant to the invention [Paragraph 46, lines 1-5].

The improvement in independent Claim 1 specifies that an eviscerated poultry carcass is caused to be subjected to inside-outside washing with a microbiocidal composition consisting essentially of water having a bromine residual derived from a halogen stabilizer, a bromine source, and an alkali metal base or alkaline earth metal base [Original Claim 1, lines 1-3 and sub-paragraph c); Paragraph 0011, lines 8-9]. The bromine residual is sufficient to provide microbiocidal activity without significant adverse affect upon the taste, odor, or appearance of the carcass [Original Claim 1, last two lines]. Such washing occurs during a time in the range of about 20-240 seconds [Paragraph 20, lines 5-14].

Multi-step improvements are specified in each of the remaining independent Claims. Thus, the improvement in independent Claim 8 comprises a three step procedure involving two biocidal treatments of the poultry carcass. In the step designated as A) an unopened defeathered poultry carcass and a microbiocidal composition as described in Claim 1 come into contact with each other via either spraying, immersion, or other form of washing whereby the exterior of said carcass is wetted by such composition for a period of time sufficient to provide microbiocidal activity on the wet exterior of the carcass [Original Claim 8, sub-paragraph A)]. In the step designated as B) the carcass from A) is opened and eviscerated. In the step designated as C) the opened and eviscerated carcass is subjected to inside-outside washing with a microbiocidally-effective amount of microbiocidal composition described in Claim 1 [Original Claim 8 in which the microbiocidal composition is that of sub-paragraph c) of Original Claim 1].

The improvement in independent Claim 14 comprises a four step procedure involving three biocidal treatments of the poultry carcass. Thus, in addition to the steps designated as

A), B), and C) of Claim 8 above, a step designated as D) is provided specifying that the carcass that was washed in the step designated as C) is placed in a chill tank in which the chill water is composed of a microbiocidally-effective amount of a microbiocidal composition described in Claim 1. The period of time in the chill tank is at least sufficient for the carcass to reach a preselected low temperature [Original Claim 14; paragraph 0018, last six lines; paragraph 0011, sub-paragraph c].

In independent Claim 23 the improvement comprises a six step procedure involving four biocidal treatments of the poultry carcasses. Thus, after completing the step designated as D) of the procedure of Claim 8, in a step designated as E) the chilled carcass is removed from the chill tank, and then in a step designated as F), the chilled carcass and a microbiocidal composition as described in Claim 1 are caused to come into contact with each other to effect microbiocidal control, this step F) occurring before the chilled carcass is packaged [Original Claim 23; paragraph 0018, last six lines; paragraph 0011, sub-paragraph c].

In independent Claim 31 the improvement comprises a two step procedure involving two biocidal treatments of the poultry carcasses. In the step designated as A) an eviscerated poultry carcass is caused to be subjected to inside-outside washing with a microbiocidal composition consisting essentially of water having a bromine residual derived from a halogen stabilizer, a bromine source, and an alkaline metal base or an earth metal base. In the step designated as B) the carcass that was washed in A) is placed in a chill tank and brought into contact with chill water composed of a microbiocidal composition as described in step A), the halogen residuals in A) and in B) being sufficient to provide microbiocidal activity without significant adverse affect upon the taste, odor, or appearance of the carcass [Original Claim 31]. The inside-outside washing occurring in A) occurring during a time in the range of about 20-240 seconds, *i.e.*, the time it typically takes in an automated processing line for a defeathered carcass to travel from the defeathering stage to the carcass opening stage [paragraph 0020 bridging pages 7 and 8].

The multiple contacting or washing operations of the claims when used ensure that pathogens such as species of *Listeria, Escherichia, Salmonella, Campylobacter*, and others, are effectively controlled. In large scale bird processing lines where high throughput is essential, the aqueous antimicrobial solution used in these stages or stations should not slow down the line to give the aqueous antimicrobial solution time to act. Thus it should be possible for the processing lines to be operated at conventional speeds. Further, the waters used in the respective stages or stations can each be treated with suitable microbiocidal quantities of the specified microbiocide and thus only one such agent can be used throughout the plant, thus simplifying the purchasing, storage and inventory aspects of the plant operation. Indeed it is deemed possible to use water containing the same microbiocidal concentration of the specified microbiocide in the water going to each of stages A), C), and D), and also in F) as well [paragraph 0019].

Grounds of Rejection to be Reviewed on Appeal

Ground of Rejection

Claims 1, 3, 4, 8, 10, 14-19, 23-31, 33, 34, and 38-45 are rejected under U.S.C. 103(a) as being unpatentable over Howarth (WO 03/001931) in view of Hilgren *et al.* [U.S. 6,514,556] and Yang *et al.* [U.S. 6,123,870] as set forth in paragraph no. 2, Paper no. 110906 and in paragraph no. 3, Paper No. 051506. Please note that Claim 45 has previously been cancelled.

Clarification by the Examiner

It will be seen from the above that the rejection refers to paragraph no. 2 in Paper No. 110906 and paragraph no. 3, Paper No. 051506. Since paragraph no. 3 contained several rejections based on combined references in which U.S. Patents of Howarth were involved, the undersigned discussed this matter with the Examiner by telephone on August 23, 2007. The Examiner explained that there is only one ground of rejection involved based on Howarth (WO 03/001931) in view of Hilgren *et al.* [U.S. 6,514,556] and Yang *et al.* [U.S. 6,123,870]. The Examiner further indicated that his reference to paragraph no. 3 means that the

explanations given in those rejections now apply to this same rejection, *i.e.*, the rejection set forth in the Final Rejection. In short, there is only one rejection in the case. The Examiner is thanked for this clarification. Such explanations are set forth and are briefly considered in a subsequent Section of this Brief.

Clarifications by Appellant

a) Please note that Claim 45 referred to in the Rejection was cancelled by the amendment transmitted to the PTO on July 5, 2007.

b) Although not in the form of a rejection, an issue exists in this Appeal, namely, whether or not the declaration under 37 CFR 1.132 submitted by Dr. Liimatta, although "fully considered" by the Examiner, should have resulted in allowance of the claims or at least some of them. For the convenience of the Board, a copy of that declaration appears in the Evidence Appendix to this Brief, and is separately discussed in the Argument portion of this Brief.

Argument

In the hope of expediting this matter, in Section I. of this Argument, Appellant will argue against the rejection as applied to all of the claims on Appeal. In Section II. of this Argument, Appellant will discuss the issue concerning the Declaration under 37 CFR 1.132 submitted by Dr. Liimatta. Thereafter, in Section III. of this Brief, Appellant will summarize the Examiner's reasons given to support the rejection and briefly present arguments as to why such reasons are inapplicable.

Section I.

The Rejection of the Claims is Erroneous as a Matter of Fact and Law

As noted above, all of the claims in the case have been rejected on the combination of Howarth in view of Hilgren and Yang. Despite Appellant's prior arguments that Hilgren is not properly combinable with Howarth or Yang because Hilgren leads away from the combination, the Final Rejection takes the position that "Applicant's comments regarding the

alleged deficiencies of Hilgren et al are not convincing since Hilgren et al is merely relied upon for the concept of using an inside-outside washing procedure to treat poultry carcasses". It is submitted that it is impermissible for an Examiner to pick and choose one specific piece of information out of a reference while ignoring all of the remainder of the reference which clearly does not support the rejection, and in fact leads away from the invention. In other words, the rejection under such circumstances is based upon an improper combination of references.

A reference must be considered in its entirety, i.e., as a *whole*, including portions that would lead away from the invention; elements of separate prior patents cannot be combined when there is no suggestion of such combination anywhere in those patents. *Panduit v. Dennison Mfg. Co.*, 810 F.2d 1561, 1568, 1 U.S.P.Q.2d 1529 (Fed. Cir. 1988). In the words of the court in *Panduit*:

> Clarity in the law requires universal application of the same legal standards to fact-finding functions performed en route to final § 103 conclusions.
>
> Among legal standards for determining scope and content of the prior art, for example are: a prior patent must be considered in its entirety, i.e., as a *whole*, including portions that would lead away from the invention in suit, *W.L. Gore & Associates Inc. v. Garlock, Inc.,* 721 F.2d 1540, 1550, 220 USPQ 303, 311 (Fed. Cir. 1983), *cert. denied*, 469 U.S. 851, 101 S.Ct. 172, 83 L.Ed.2d 107 (1984); * * *

The Hilgren reference, in column 1, lines 4-9, defines its "FIELD OF THE INVENTION" as follows:

> The present invention relates to compositions including peroxyacetic acid and peroxyoctanoic acid and methods for reducing microbial contamination on poultry. The methods include the step of applying a mixed peroxycarboxylic acid composition to poultry.

These are the microbiocides with which Hilgren is exclusively concerned.

In describing the "BACKGROUND OF THE INVENTION" the Hilgren reference states at column 2, lines 20-30 as follows:

> In the past, poultry wash or process waters have generally been treated with chlorinated compounds, organic acids, acidified sodium chlorite, trisodium phosphate, or ozone. Generally, these materials are effective in reducing microbial contamination on poultry. However, the use rate of these antimicrobials is very high because they are not effective at low concentrations or they tend to be rapidly consumed by the high organic load included with the poultry. Excessive chlorination of food processing water with hypochlorite has prompted concern over production of toxic or carcinogenic organochlorine compounds and other byproducts. [Emphasis added]

Clearly, Hilgren is sharply distinguishing its subject matter from prior art materials including chlorine-based antimicrobials and in fact teaches away from use of organochlorine compounds in general on the basis of concern over toxicity and carcinogenicity. It is submitted that anyone of ordinary skill in the art reading this passage would certainly be led away from considering use of the chlorine or bromine-based antimicrobials described by Howarth and by Yang, in view of the fact that chlorine and bromine compounds fall in the same chemical class and have similar properties. The level of ordinary skill in this art is clearly such as to take into careful consideration warnings, teachings, or even suggestions of potential toxicity and carcinogenicity when considering use of a biocide in direct contact with poultry carcasses to be consumed by human beings.

And Hilgren does not even stop with the above warnings against use of chlorine-based antimicrobials and thus bromine-based antimicrobials as well. Instead, Hilgren reemphasizes such warnings. Thus, at column 19, lines 42-46, Hilgren states as follows:

> The advantageous stability of mixed peroxycarboxylic acid compositions in such methods, which include the presence of poultry debris or residue, makes these compositions competitive with cheaper, less stable, and potentially toxic chlorinated compounds. [Emphasis added]

In view of these repeated negative teachings of Hilgren, with respect to halogen-based antimicrobials, one skilled in the art on reading Hilgren in its entirety would not be led to combine the teachings of Hilgren with those of Howarth and Yang. Nor would one of ordinary skill in the art find any basis in Hilgren for picking and choosing only one minor portion of its voluminous disclosure to the exclusion of all of the other teachings therein. To do so is deemed to be use of hindsight using the present application as the blueprint. Indeed, the Final Rejection itself acknowledges that only a portion of Hilgren has been selected in order to create and maintain the rejection by stating ". . . Hilgren, et al. is merely relied upon for the concept of using an inside-outside washing procedure to treat poultry carcasses."

The law on hindsight reasoning is clear and well-established. *In re Fritch*, 972 F.2d 1260, 23 USPQ2d 1780 (Fed. Cir. 1992), quoting in part from *In re Fine*, 837 F.2d 1071, 1075, 5 U.S.P.Q.2d 1596, 1600 (Fed. Cir. 1988) states:

> It is impermissible to use the claimed invention as an instruction manual or "template" to piece together the teachings of the prior art so that the claimed invention is rendered obvious. This court has previously stated that "[o]ne cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention."

Appellants submit that this is a fair description of the §103(a) obviousness rejection in this case. The rejections are based on selection of one small portion out of Hilgren while completely ignoring specific teachings in Hilgren pertaining to potential toxicity and carcinogenicity, which clearly lead away from the subject matter of the other two references, Howarth and Yang, as well as the subject matter of the claims on Appeal. Furthermore, the portion selected from Hilgren is limited in its scope to use of water (column 17, lines 29-46)

or "a peroxycarboxylic acid antimicrobial composition, preferably a composition of the present invention" (column 7, lines 47-55), the latter composition referring to more complex mixtures described in the Hilgren text. Appellant finds no suggestion whatever in this text of Hilgren that extends beyond using in inside-outside washing either water or a peroxycarboxylic acid antimicrobial composition of Hilgren. There is no suggestion by Hilgren to use any other microbiocide in inside-outside washing, much less a chlorine- or bromine-based microbiocide of Howarth or Yang. Thus, there is no evidence of record to support the contention of obviousness to combine the references. Such contention is merely an unsupported conclusory statement. As pointed out in *In re Lee* 277 F.3d 1338, 61 USPQ2d 1430, 1434 (Fed. Cir. 2002) (quoting W.L. Gore *v.* Garlock, Inc., supra):

> * * * It is improper, in determining whether a person of ordinary skill would have been led to this combination of references, simply to "[use] that which the inventor taught against its teacher." . . . Thus, the Board must not only assure that the requisite findings are made, based on evidence of record, but must also explain the reasoning by which the findings are deemed to support the agency's conclusion.

Thus, no *prima facie* case of obviousness has been established and therefore the rejection is without the necessary foundation. As held in *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992):

> If the Examination at the initial stage does not produce a prima facie case of unpatentability, then without more the Applicant is entitled to Grant of the Patent.

For all of the foregoing reasons it is submitted that the rejection under discussion should be overruled and the claims found patentable over the cited art.

Section II.

Appellant's Declaration under 37 CFR 1.132 Shows that the Claimed Invention can Provide Unobvious Beneficial Results, and therefore is Patentable

As pointed out in Section I. in this Brief it is felt that a prima facie case of obviousness has not been established and that, therefore without more, the application is entitled to Allowance. Nevertheless, Appellant has submitted a Declaration, a copy of which is set forth in the Evidence Appendix to this Brief, which shows that the presently-claimed invention did in fact give rise to unexpected results in the test work described in that Declaration. Dr. Liimatta conducted tests in which a microbiocide of the present claims was placed in contact with a test medium containing *Campylobacter jujuni* ATCC in a test medium containing 5% chicken blood as a soil load. The test were conducted at two temperatures, 20°C and 4.4°C. The contact times used were 30 seconds and 600 seconds. Dr. Liimatta found that, surprisingly, the shorter treatment contact time (30 seconds) resulted in better efficacy (greater percent reduction of the bacteria) than the longer treatment contact time (600 seconds).

The Examiner has dismissed this evidence, giving as the basis for such dismissal that the Liimatta Declaration is not commensurate in scope with Appellant's claims, which fail to recite the specific temperatures and the 30 second contact time used in the tests performed in the Declaration. Thus, it is said that the Declaration does not offer a comparison with the closest prior art. We submit that this basis for dismissing the evidence is inapplicable and erroneous. We submit that the fact that where a microbiocide of the invention has been shown to give a greater effect when used with a relatively short contact time than when allowed to remain for a much greater contact time (20 times as long) is evidence of a practical beneficial characteristic of the microbiocide. Clearly, such a result is counterintuitive since the longer a microbiocide is in contact with microorganisms, the greater would be the expected microbiocidal effect. Moreover, anyone of skill in this art would understand that this evidence is not restricted to 30 seconds contact time nor to the specific temperature range tested. To say otherwise without supporting evidence amounts to unsupported skepticism.

This is not
a situation in which Appellant was making a direct comparison against prior art, but rather showing that compositions of the presently-claimed invention do, in fact, possess an unexpected beneficial property which could not have been predicted from any of the references of record, and which property is of practical value in as much as it enables use of short contact times to achieve high microbiocidal effectiveness. We therefor submit that under the special circumstances presented here, the results of the Declaration constitute evidence that is probative of unobviousness and consequent patentability of the claims in their present form.

Therefore, if consideration of the showing made in the Liimatta Declaration should become necessary in deciding this Appeal, Appellant submits that his showing in the Declaration is probative of beneficial unexpected results, and therefore is believed to support patentability of the claims.

Section III.

Compilation of Examiner's Reasons Given in Support of the 103(a) Rejection and Appellant's Comments Pertaining to Same

To facilitate matters, the explanations given by the Examiner to support the rejection will be taken up in chronological order. The Examiner's reasons given in paragraph no. 3, Paper No. 051506 will be updated by material in brackets pursuant to the Examiner's clarification discussed in the section of this Brief entitled "**Grounds of Rejection to be Reviewed on Appeal**" under the subheading "Clarification by the Examiner".

Examiner's Explanations in paragraph no. 3, Paper No. 051506

a) "[Howarth discloses] treating defeathered and eviscerated poultry carcasses with a microbiocidal composition including 1,3-dibromo-5,5-dialkylhydantoin using the same treatment procedures claimed by Applicant except for inside-outside washing with said composition. It would have been obvious to use inside-outside washing as one of the application procedures of said composition since it is well known to treat

poultry carcasses with a microbiocidal composition using an inside-outside washing procedure, as evidenced by Hilgren et al."

b) It would have been obvious to substitute an aqueous composition including a bromine source, a halogen stabilizer, e.g. sulfamic acid, and an alkali metal base, e.g. sodium hydroxide, for the dialkylhydantoin containing composition in [Howarth] since these two compositions are used alternatively for reducing microbial contamination in animal matter, as evidenced by [Howarth, et al.]. The sulfamic acid in the composition disclosed in [Howarth] obviously will function as a halogen, i.e. bromine, stabilizer since sulfamic acid is known to serve this purpose in bromine containing compositions used in biofoul control in food systems, as evidenced by Yang, et al.

Appellant's responses to Explanations a) and b)

Explanation a) acknowledges that the rejection depends upon use of Hilgren et al. as a reference in support of the 103 rejection. Use of Hilgren is submitted to be improper because only a portion of the reference has been selected to support the rejection while ignoring passages in the reference which would lead one of ordinary skill in the art to not consider Hilgren in connection with Howarth or the present invention. As regards inside-outside washing, and as pointed out above, Hilgren's teaching is limited to only use of water or certain peroxycarboxylic acids as microbiocides. There is no suggestion in Hilgren to use any other kind of biocide, and certainly not a halogen-containing biocide in view of the fact that Hilgren calls attention to the potential hazards (toxicity and carcinogenicity) of using chlorine biocides, especially in connection with anything to be consumed by humans. Thus, the rejection is based upon an improper combination of references and a prima facie case of obviousness has not been established. Explanation b) does not negate patentability of the present claims since the substance of that explanation does not relate to the subject matter of the claims on Appeal as a whole.

Examiner's Explanations in paragraph no. 2, Paper No. 110906

The first portion of the Explanation repeats Explanation a) presented and discussed above. The additional material given in this explanation is as follows:

c) The use of an automatic transport, e.g., conveyor belts, to transport carcasses through a treatment system is conventional in this art. Finding the optimum bromine residual of the composition used to treat the interior of the poultry carcass and the optimum bromine residual used to treat the exterior of the poultry carcass would require nothing more than routine experimentation by one reasonably skilled in this art.

Appellant's Response to Explanation c)

The Examiner's comments concerning "optimum" residuals overlooks the fundamentals of the claims. The claimed subject matter is admittedly novel since the rejection is based on 35 U.S.C. 103(a), not 35 U.S.C 102. Since there is novel subject matter, the Appellant's teachings concerning amounts of residual represent teachings pertaining to the novel invention itself. Under such circumstances, denigration of the residuals by suggesting that they are "optimum" or that they could be established by "routine experimentation by one reasonably skilled in the art" overlooks the fact that the invention itself was, at the time of the invention, unknown to those skilled in the art. Under such circumstances, one skilled in the art would have nothing of relevance to optimize.

Examiner's Explanation in Paragraph no. 3 in the Final Rejection mailed 03/28/2007

d) Finding the optimum time for treating the carcass exterior (Claim 45) would require nothing more than routine experimentation by one reasonably skilled in this art.

Appellant's Response to Explanation d)

The substance of this explanation has been covered by the comments given in response to Examiner's Explanation c) above. In passing, we note that Claim 45 referred to in Explanation d) has been cancelled. However, it is deemed worthwhile to reiterate here by reference, the comments made in Appellant's Response to Explanation c) above.

Conclusion

On the basis of the arguments and authorities cited hereinabove, it is submitted that the Final Rejection is in error and that the claims on Appeal are entitled to Allowance. Such

Action is earnestly solicited.

If any matters remain in requiring further consideration, the Examiner is respectfully requested to telephone the undersigned so that such matters can be discussed, and if possible, promptly resolved.

Please continue to address all correspondence in this Application to Mr. Edgar E. Spielman, Jr. at the address of record.

Respectfully submitted,

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Claims Appendix

To facilitate consideration of the claims, they have been rearranged so that dependent claims follow the claim(s) from which they depend. Thus, the claims are presented herein in the following order: 1, 42, 3, 4, 38, 29, 8, 43, 10, 39, 14, 15, 16, 17, 18, 19, 30, 23, 24, 25, 26, 27, 28, 40, 31, 44, 33, 34, and 41.

1. In the processing of poultry for consumption as a meat product, the improvement which comprises causing an eviscerated poultry carcass to be subjected to inside-outside washing with a microbiocidal composition consisting essentially of water having a bromine residual derived from a halogen stabilizer, a bromine source and an alkali metal base or alkaline earth metal base; the bromine residual being sufficient to provide microbiocidal activity without significant adverse effect upon the taste, odor, or appearance of the carcass, wherein said washing occurs during a time in the range of about 20-240 seconds.

42. The improvement as in Claim 1 wherein a mechanically transported series of poultry carcasses is automatically transported into apparatus in which the poultry carcass is subjected to said inside-outside washing.

3. The improvement as in Claim 42 wherein in said inside-outside washing, the interior cavity of a transported poultry carcass is penetrated by a spray probe so that (i) contaminants together with (ii) microbiocidal composition that is sprayed into the interior cavity of the poultry by the probe, drain from the carcass.

4. The improvement as in Claim 3 wherein in said inside-outside washing, pressurized sprays of the microbiocidal composition are applied to the exterior of the carcass so that the exterior of the carcass is thoroughly cleansed, and optionally the exterior of the carcass is also automatically mechanically scrubbed.

38. The improvement as in Claim 4 wherein the bromine residual of the microbiocidal composition that is sprayed into the interior of the cavity of the poultry is

higher than the bromine residual of the microbiocidal composition applied to the exterior of the carcass.

29. The improvement as in any of Claims 1, 3 or 4 wherein said bromine residual is in the range of about 3 to about 200 ppm (wt/wt) as total bromine.

8. In the processing of poultry for consumption as a meat product, the improvement which comprises:

A) causing (i) at least one unopened defeathered poultry carcass and (ii) a microbiocidal composition as described in Claim 1 to come into contact with each other, via either spraying, immersion, or other form of washing whereby the exterior of said carcass is wetted by such composition for a period of time sufficient to provide microbiocidal activity on the wet exterior of said carcass;

B) opening and eviscerating the carcass that was wetted in A); and

C) causing the opened and eviscerated poultry carcass to be subjected to inside-outside washing with a microbiocidally-effective amount of microbiocidal composition as described in Claim 1.

43. The improvement as in Claim 8 wherein the at least one defeathered poultry carcass in A) is one of a series of unopened defeathered poultry carcasses that are mechanically transported to a station where the poultry carcasses and said microbiocidal composition come into contact with each other; wherein a series of carcasses wetted in A) are mechanically transported to a station where in B) the series of carcasses are opened and eviscerated; and wherein in C) a series of poultry carcasses opened and eviscerated in B) is caused to be subjected to said inside-outside washing.

10. The improvement as in Claim 43 wherein in said inside-outside washing, the interior cavity of a transported poultry carcass is penetrated by a spray probe which applies pressurized sprays of said microbiocidal composition to the interior cavity of the carcass so that (i) contaminants together with (ii) microbiocidal composition that is sprayed into the interior cavity of the poultry by the probe, drain from the carcass; and wherein in said inside-

outside washing, pressurized sprays of the microbiocidal composition are applied to the exterior of the carcass so that the exterior of the carcass is thoroughly cleansed, and optionally the exterior of the carcass is also automatically mechanically scrubbed.

39. The improvement as in Claim 10 wherein the bromine residual of the microbiocidal composition that is applied to the interior cavity of the carcass is higher than the bromine residual of the microbiocidal composition applied to the exterior of the carcass.

14. In the processing of poultry for consumption as a meat product, the improvement which comprises:

A) causing (i) a microbiocidal composition as described in Claim 1 and (ii) at least one unopened defeathered poultry carcass to come into contact with each other via either spraying, immersion, or other form of washing, whereby the carcass exterior is wetted by such composition for a period of time sufficient to provide microbiocidal activity of the wet exterior of the carcass;

B) opening and eviscerating the carcass that was wetted in A);

C) causing the eviscerated carcass to be subjected to inside-outside washing with a microbiocidally-effective amount of a microbiocidal composition as described in Claim 1; and

D) causing the carcass that was washed in C) to be placed in a chill tank and brought into contact with chill water which is composed of a microbiocidally-effective amount of a microbiocidal composition as described in Claim 1, said carcass being in said chill water for a period of time that is at least sufficient for the carcass to reach a pre-selected low temperature.

15. The improvement as in Claim 14 wherein to cause the contacting in A), said microbiocidal composition is sprayed on said defeathered poultry carcass.

16. The improvement as in Claim 14 wherein to cause the contacting in A), said defeathered poultry carcass is immersed in said microbiocidal composition.

17. The improvement as in Claim 14 wherein the washing in C) is effected by use of an inside-outside washing apparatus through which the carcass is conveyed.

18. The improvement as in Claim 17 wherein said washing apparatus comprises a spray delivery system adapted to apply said microbiocidal composition to the interior cavity of said carcass and another spray delivery system adapted to apply said microbiocidal composition to the exterior of said carcass.

19. The improvement as in Claim 14 wherein to cause the contacting in A), said microbiocidal composition is sprayed on said defeathered poultry carcass; and wherein the washing in C) is effected by use of an inside-outside washing apparatus through which the carcass is conveyed.

30. The improvement as in any of Claims 14-19 wherein the microbiocidal composition used in A), the microbiocidal composition used in C), and the microbiocidal composition used in D) each has, independently, a bromine residual in the range of about 3 to about 200 ppm (wt/wt) as total bromine.

23. In the slaughter and processing of poultry as a meat product, the improvement which comprises:

A) causing (i) a microbiocidal composition as described in Claim 1 and (ii) at least one unopened defeathered poultry carcass to come into contact with each other before the carcass is opened, whereby the carcass exterior is wetted by such microbiocidal composition for a period of time sufficient to provide microbiocidal activity on the wet exterior of the carcass;

B) opening and eviscerating the carcass that was wetted in A);

C) causing the eviscerated carcass to be subjected to inside-outside washing with a microbiocidally-effective amount of a microbiocidal composition as described in Claim 1;

D) causing the carcass that was washed in C) to be placed in a chill tank and brought into contact with chill water which is composed of a microbiocidal composition as

described in Claim 1, said carcass being in said chill water for a period of time that is at least sufficient for the carcass to reach a pre-selected low temperature;

E) causing the chilled carcass to be removed from the chill tank; and

F) before packaging the chilled carcass, causing (i) the chilled carcass and (ii) a microbiocidal composition as described in Claim 1 to come into contact with each other to effect microbiocidal control.

24. The improvement as in Claim 23 wherein to cause the contacting in F), said microbiocidal composition is sprayed on said chilled carcass, and wherein after the contacting in F) the chilled carcass is rinsed at least once with clear water.

25. The improvement as in Claim 23 wherein to cause the contacting in F), said chilled carcass is immersed in said microbiocidal composition, and wherein after the contacting in F) the chilled carcass is rinsed at least once with clear water.

26. The improvement as in Claim 23 wherein the washing in C) is effected by use of an inside-outside washing apparatus through which the carcass is conveyed.

27. The improvement as in Claim 26 wherein in said inside-outside washing apparatus, the interior cavity of said carcass is penetrated by a spray probe so that (i) contaminants together with (ii) microbiocidal composition that is sprayed into the interior cavity of the poultry by the probe, drain from the carcass.

28. The improvement as in Claim 27 wherein in said inside-outside washing, pressurized sprays of the microbiocidal composition are applied to the exterior of the carcass so that the exterior of the carcass is thoroughly cleansed, and optionally the exterior of the carcass is also automatically mechanically scrubbed.

40. The improvement as in Claim 27 wherein the bromine residual of the microbiocidal composition that is sprayed into the interior of the cavity of the poultry is higher than the bromine residual of the microbiocidal composition applied to the exterior of

the carcass.

31. In the processing of poultry for consumption as a meat product, the improvement which comprises:

A) causing an eviscerated poultry carcass to be subjected to inside-outside washing with a microbiocidal composition consisting essentially of water having a bromine residual derived from a halogen stabilizer, a bromine source and an alkali metal base or alkaline earth metal base; and

B) causing the carcass that was washed in A) to be placed in a chill tank and brought into contact with chill water which is composed of a microbiocidal composition as described in A) hereof, said carcass being in said chill water for a period of time that is at least sufficient for the carcass to reach a pre-selected low temperature;

the halogen residuals in A) and in B) being sufficient to provide microbiocidal activity without significant adverse effect upon the taste, odor, or appearance of the carcass; and wherein said washing occurs during a time in the range of about 20-240 seconds.

44. The improvement as in Claim 31 wherein a mechanically transported series of poultry carcasses is automatically transported into apparatus in which the poultry carcass is subjected to said inside-outside washing in A).

33. The improvement as in Claim 44 wherein in said inside-outside washing, the interior cavity of a transported poultry carcass is penetrated by a spray probe so that (i) contaminants together with (ii) microbiocidal water solution that is sprayed into the interior cavity of the poultry by the probe, drain from the carcass.

34. The improvement as in Claim 33 wherein in said inside-outside washing, pressurized sprays of the microbiocidal water solution are applied to the exterior of the carcass so that the exterior of the carcass is thoroughly cleansed, and optionally the exterior of the carcass is also automatically mechanically scrubbed.

41. The improvement as in Claim 34 wherein the bromine residual of the

microbiocidal water solution that is sprayed into the interior of the cavity of the poultry is higher than the bromine residual of the microbiocidal water solution applied to the exterior of the carcass.

Evidence Appendix

Please see attached copy of the three-page Declaration under 37 CFR 1.132 by Dr. Liimatta, Applicant herein, which Declaration was filed with an amendment, reply, and request for continued Examination dated January 16, 2007. The Declaration is of record in the file of the case.

Related Proceedings Appendix

No related proceedings are known to Appellant.